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54 Title: Input/output device for data exchange with data-processing systems

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The invention concerns a 'dialog-' or input/output device for computers; particularly, a portable device that fits entirely within the hand and that may be operated by hand.

Most known computer input/output devices require a fixed position and a specific location. In general, they are the size of a suitcase, and cannot be safely carried or held in the hand. Such inconvenient arrangements hinder flexibility regarding position, and require installation of the computer input/output device at a location practical for operation.

[The drawings show....]

- Figure 1 a perspective illustration of a handheld input/output device based on the invention for data exchange with a computer;
- Figure 2 a block circuit diagram to explain the manner of operation of the input/output device; and
- Figures 3A, 3B, and 3C that belong together according to the diagram in Figure 3- a detailed schematic block circuit diagram to explain the structure and manner of operation of the input/output device.

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Patent Claim 1:

Input/output device for data exchange with external data-processing systems,

characterized by

an alpha-numeric display (22) for visual representation of transmitted and received data; a data buffer (52) connected with the display (22) to store transmitted and received data; an information input keyboard (24) with a large number of keys actuated by the one hand of an operator, each of which allows transfer of n different information steps, whereby n is an integer greater than 2; at least $\log(2) n$ step-switching control keys (26 - 28) that may simultaneously be actuated by the operator with the other hand to select the desired information step for transfer of all n steps, whereby n is an integral power of 2; at least 1 plus the approximating value of $\log(2) n$ step-switching control keys that may simultaneously be actuated by the operator with the other hand to select the desired information step for transfer of all n steps, whereby n is not equal to an integral value of 2; an information transmission device (44) connected with the keyboard (24) and the control keys (26 - 28) to transmit the information selected by means of the keyboard to at least the above-mentioned external data-processing system; and an information reception device (44) connected with the external data-processing system and the data buffer (52) to receive information.

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